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Tall Fescue Performance under Low Maintenance Conditions in the National Turfgrass Evaluation Program Test

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TURFGRASS RESEARCH 2022



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Tall Fescue Performance under Low Maintenance Conditions in the National Turfgrass Evaluation Program Test

Jack D. Fry

Summary

The National Turfgrass Evaluation Program (NTEP) Tall Fescue Test was planted in 2018 at the Kansas State University Olathe Horticulture Center, Olathe, KS. Differences have been observed among entries maintained under low maintenance conditions.

Rationale

Tall fescue is the most widely used cool-season turfgrass in home lawns in the state. Some homeowners provide little input to their lawns. This tall fescue trial had minimal fertilizer input and no irrigation, and was used to help determine cultivars that perform best under these conditions.

Objective

To evaluate performance of tall fescue cultivars and genotypes in Kansas under low-maintenance conditions.

Study Description

This experiment is conducted at the Olathe Horticulture Center in Olathe, KS. Soil is a silt loam with pH around 6.0. Plots measuring 4.5×4.5 ft were seeded on September 18, 2018. Plots were covered after seeding to prevent erosion. Significant deer traffic caused damage to plots, which required additional seed to be applied in May 2019. The study area received only 0.75 to 1.0 lb of N/1,000 ft² each September. A preemergence herbicide was applied each April, and broadleaf herbicides were applied when needed (no more than once annually). No irrigation has been applied

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to the area except during the period of establishment. Plots were rated visually for quality on a 1 to 9 scale on which 1 = poorest quality; 6 = acceptable for a home lawn; and 9 = optimum density, color, texture, and uniformity.

Results

In 2021, mean quality between April and September ranged from 2.8 to 5.1. Mean quality of cultivars commercially available, that was highest, included Titan, Dynamite G-LS, Xanadu, Spyder 2LS, Triad, Zion, Serenade, Tank, Bonfire, Firehawk SLT, Lifeguard, RH3, Stealth, Titanium, Degas, and Kizzle. Only two experimental entries exhibited acceptable quality under low maintenance conditions (DLFPS-321/3679 and K18-RS6), which occurred in May. Performance under higher maintenance could differ significantly. Additional results from other states can be found on the NTEP website: www.ntep.org.

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Table 1. Turf quality of tall fescue cultivars and genotypes in the 2018 National Turfgrass Evaluation Program trial

Name	Turfgrass quality ^a					Mean
	Apr	May	Jul	Aug	Sep	
TITAN GLX (TF445)	4.7 ^b	5.7	5.7	5.0	4.3	5.1
DLFPS-321/3679	5.0	6.0	5.3	4.3	4.3	5.0
K18-RS6	5.0	6.0	5.0	4.7	3.7	4.9
PST-5E6	5.0	5.7	5.3	4.3	4.3	4.9
RH1	5.0	5.7	5.0	4.7	3.7	4.8
DYNAMITE G-LS (PPG-TF 254)	4.0	5.3	5.3	4.3	4.3	4.7
PPG-TF 262	4.7	5.3	5.3	4.0	4.0	4.7
RDC	4.7	4.7	5.0	4.7	4.3	4.7
RHL2	4.3	5.7	5.3	4.3	3.7	4.7
XANADU (JT 268)	5.0	5.7	5.3	4.3	3.0	4.7
PPG-TF 267	4.0	5.5	5.0	4.5	4.0	4.6
SPYDER 2LS (ZRC1)	4.3	5.7	5.0	4.3	3.7	4.6
TRIAD (PPG-TF 323)	4.0	5.3	5.0	4.3	4.3	4.6
ZION (BAR TF 134)	4.3	5.3	5.0	4.3	4.0	4.6

continued

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Table 1. Turf quality of tall fescue cultivars and genotypes in the 2018 National Turfgrass Evaluation Program trial

Name	Turfgrass quality ^a					
	Apr	May	Jul	Aug	Sep	Mean
AH2	4.3	5.0	5.0	4.3	3.7	4.5
BY-TF-169	4.3	5.7	5.0	4.0	3.7	4.5
DLFPS-321/3705	4.3	5.3	4.7	4.0	4.0	4.5
DLFPS-TF/3550	4.3	4.7	5.7	4.3	3.7	4.5
NT-3	4.7	5.0	5.3	4.3	3.0	4.5
PPG-TF 316	4.7	5.0	5.3	4.0	3.7	4.5
PST-5GLBS	4.7	5.3	4.7	4.0	4.0	4.5
PST-5MCMO	4.3	5.0	5.3	3.7	4.0	4.5
RHF	4.7	5.3	5.3	4.0	3.0	4.5
RS1	4.3	5.7	4.7	4.0	3.7	4.5
SERENADE (PPG-TF 320)	4.0	5.3	5.3	4.0	4.0	4.5
TANK (PPG-TF 338)	4.3	4.7	5.7	4.3	3.7	4.5
TD2	4.3	4.7	5.0	4.3	4.0	4.5
BONFIRE (JS DTT)	4.0	5.3	4.7	4.0	4.0	4.4
FIREHAWK SLT	4.0	5.0	5.0	4.3	3.7	4.4
LIFEGUARD	4.7	5.3	5.0	3.7	3.3	4.4
RH3	4.3	5.3	5.0	4.3	3.0	4.4
STEALTH (PPG-TF 238)	4.3	5.3	5.0	3.7	3.7	4.4
TITANIUM G-LS (PPG-TF 255)	4.3	5.0	5.3	4.0	3.3	4.4
5LSS	4.3	4.3	5.0	4.3	3.3	4.3
BAR-FA8230	4.0	5.0	4.7	3.7	4.0	4.3
DEGAS (LTP-TF-111)	4.7	5.3	4.7	4.0	3.0	4.3
DLFPS-321/3696	4.3	5.0	5.0	4.0	3.3	4.3
DLFPS-321/3702	4.3	6.0	4.3	3.7	3.0	4.3
KIZZLE (K18-ROE)	4.3	5.3	4.3	4.3	3.3	4.3
PPG-TF 257	4.0	4.7	4.7	4.0	4.3	4.3
PPG-TF 318	5.0	5.0	4.7	3.3	3.7	4.3
PPG-TF 337	4.0	5.0	4.7	4.3	3.7	4.3
RC4	3.7	5.3	5.0	3.3	4.0	4.3
BAR FA 8228	4.3	4.0	4.3	4.0	4.3	4.2
DLFPS-TF/3552	3.7	4.7	4.7	4.3	3.7	4.2
GALACTIC (SESCR1)	4.0	4.7	5.0	4.0	3.3	4.2
GO-RH20	3.7	5.0	4.7	4.3	3.3	4.2
K18-WB1	4.0	4.7	5.0	4.3	3.0	4.2

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Name	Turfgrass quality ^a					
	Apr	May	Jul	Aug	Sep	Mean
PST-5TRN	4.0	5.0	4.3	3.7	4.0	4.2
TITAN MAX (TF456)	3.7	5.3	4.7	4.0	3.3	4.2
DLFPS-321/3701	4.0	4.7	4.7	3.7	3.3	4.1
DLFPS-TF/3553	4.0	4.7	4.7	3.3	3.7	4.1
K18-NSE	4.0	5.3	4.7	3.7	3.0	4.1
NAI-ST5	4.3	5.0	4.7	3.7	2.7	4.1
PST-5THM	4.3	4.3	4.3	4.0	3.3	4.1
RAPTOR LS (PPG-TF 336)	4.0	5.0	4.7	3.7	3.3	4.1
SYMPHONY (PPG-TF 305)	3.7	4.7	5.0	3.7	3.7	4.1
TEACHER (PPG-TF 313)	4.3	5.0	4.0	3.7	3.7	4.1
AVENGER III (PPG-TF 308)	4.0	4.7	4.3	4.0	3.0	4.0
DLFPS-321/3707	3.7	4.3	4.0	4.0	4.0	4.0
FAIRFIELD (SETF104)	4.3	4.7	4.0	3.7	3.3	4.0
FIRECRACKER G-LS (PPG-TF 315)	3.7	5.0	4.7	4.0	2.7	4.0
GLX ACED (PST-5DART)	4.0	4.3	4.3	4.0	3.3	4.0
HEMI	3.7	4.7	4.7	3.7	3.3	4.0
KENTUCKY-31	4.7	3.3	3.7	3.7	4.7	4.0
LBF	4.3	5.0	4.3	3.7	2.7	4.0
SETFM3	4.3	5.3	4.0	3.7	2.7	4.0
ATF2116	5.0	4.5	3.5	3.0	3.5	3.9
BGR-TF3	4.0	4.3	4.0	3.3	4.0	3.9
BULLSEYE LTZ	4.5	5.5	3.5	3.5	2.5	3.9
DLFPS-321/3699	4.0	4.3	4.3	3.3	3.3	3.9
DRAGSTER	4.0	5.0	4.7	3.7	2.3	3.9
NATURALLY GREEN	4.7	4.7	4.0	3.0	3.3	3.9
PST-5MINK	4.0	4.3	4.0	3.7	3.3	3.9
RAPTOR III	4.3	5.0	4.0	3.3	3.0	3.9
TMT1	4.3	4.3	4.7	3.7	2.7	3.9
COL-TF-148	3.7	4.3	4.3	3.3	3.3	3.8
DLFPS-321/3706	3.7	4.3	4.0	4.0	3.0	3.8
FIRENZA II (PPG-TF 244)	4.3	4.7	3.7	3.0	3.3	3.8
OKEEFE (LTP-TF-122)	4.0	4.3	4.0	3.7	3.0	3.8
PPG-TF 249	4.0	4.0	4.3	3.7	3.0	3.8
PST-5GQ	4.0	4.3	4.0	3.0	3.7	3.8

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3N1	4.0	4.3	4.0	3.0	3.3	3.7
ATF1768	4.0	4.3	4.3	3.3	2.3	3.7
ESCALADE	4.3	3.7	3.3	3.7	3.7	3.7
GRANDE 3	4.0	3.7	4.0	3.3	3.3	3.7
NAI-FQZ-17	4.0	5.0	4.0	3.0	2.7	3.7
PALOMAR	4.0	4.0	4.0	3.3	3.3	3.7
PARAMOUNT	4.3	4.0	4.7	2.7	3.0	3.7
PPG-TF 306	4.7	4.7	4.0	2.7	2.3	3.7
PPG-TF 312	4.0	4.3	4.0	3.3	3.0	3.7
PRO GOLD	4.3	5.3	3.3	3.0	2.7	3.7
PST-5BYOB	4.0	4.3	4.0	3.0	3.0	3.7
3B2	4.3	4.7	3.3	3.3	2.3	3.6
BIRMINGHAM	4.3	4.3	4.0	3.0	2.3	3.6
DLFPS-321/3695	4.0	4.0	4.0	3.0	3.0	3.6
NAI-ROS4	3.7	4.0	4.0	3.3	3.0	3.6
PST-5DC24	4.0	5.0	3.3	2.7	3.0	3.6
PST-5DZM	3.7	4.3	3.7	3.3	3.0	3.6
RAD-TF105	4.0	4.7	4.3	3.0	2.0	3.6
RAD-TF131	4.0	4.0	3.3	3.3	3.3	3.6
AH1	3.3	4.0	4.0	3.3	3.0	3.5
AST8118LM	4.0	4.3	4.0	2.7	2.3	3.5
BAR 9FE MAS	4.0	4.7	3.7	2.3	2.7	3.5
BRAVO 2	4.3	3.7	4.0	3.0	2.3	3.5
BULLSEYE	3.7	4.3	4.0	3.0	2.7	3.5
DLFPS-321/3703	4.0	4.0	4.0	3.0	2.3	3.5
JT 517	4.0	3.7	3.7	3.0	3.0	3.5
OG-WALK	4.0	3.7	3.3	3.3	3.0	3.5
SE5STAR	4.3	4.3	4.0	2.7	2.0	3.5
TOUGH (NAI-TUE)	4.0	4.0	3.3	3.7	2.7	3.5
BANDIT	4.0	4.0	3.3	2.7	3.0	3.4
ESTRENA	3.7	4.0	3.3	3.0	3.0	3.4
JT 233	4.0	4.3	3.7	2.7	2.3	3.4
A-TF31	4.0	3.7	3.7	2.7	2.7	3.3
DLFPS-321/3708	3.3	4.3	3.3	3.3	2.3	3.3
GRAND PRIX (FC15-01P)	3.7	3.3	3.7	2.7	3.0	3.3

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Name	Turfgrass quality ^a					Mean
	Apr	May	Jul	Aug	Sep	
GRO-PRO (SE53D2)	3.7	3.3	3.3	2.7	3.3	3.3
PADRE 2	3.5	4.0	3.5	3.5	2.0	3.3
TALLADEGA II (NAI-3N2)	4.0	4.3	3.0	2.7	2.3	3.3
TANGO	4.0	3.3	3.7	2.7	3.0	3.3
AST8218LM	4.0	4.3	3.3	2.7	1.7	3.2
COPIOUS TF	4.0	3.7	3.3	2.7	2.3	3.2
FAYETTE	4.0	3.3	3.3	3.0	2.3	3.2
RAD-TF115 (TURBO SS)	3.3	4.0	3.3	3.0	2.3	3.2
DLFPS-321/3693	4.0	4.3	3.0	2.3	2.0	3.1
MONUMENT (PST-5SQB)	3.7	3.7	3.3	2.3	2.7	3.1
MOONDANCE GLX	3.0	3.7	3.0	3.3	2.7	3.1
SETFM2	3.7	4.0	3.7	2.3	2.0	3.1
GO-AOMK	3.7	4.0	3.3	2.0	2.0	3.0
PPG-TF 231	3.5	3.5	3.0	2.5	2.5	3.0
DLFPS-321/3694	3.3	3.3	3.0	2.0	2.3	2.8
LSD	1.3	1.8	1.4	1.6	2.6	1.0

^a Turf quality was rated visually on a 1 to 9 scale in which 1 = poorest quality; 6 = acceptable color, density, texture, and uniformity; and 9 = optimum quality.

^b To determine statistical differences among entries, subtract one entry's mean from another's. If the difference is larger than the corresponding least significant difference (LSD), the two are statistically different.

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